

## PCV72

**ESTIMATING LIFETIME ECONOMIC BURDEN OF STROKE IN KOREA ACCORDING TO THE AGE OF ONSET: USING NATIONAL HEALTH INSURANCE CLAIMS DATABASE**Kang HY<sup>1</sup>, Lim SJ<sup>1</sup>, Chang HS<sup>1</sup>, Liew D<sup>2</sup><sup>1</sup>Yonsei University, Seoul, South Korea, <sup>2</sup>The University of Melbourne, Melbourne, Victoria, Australia

**OBJECTIVES:** Little is known about variations in resource use and cost of stroke among patients experiencing stroke at different age. Recent observation of getting younger among stroke patients in Korea raises a concern on the loss of labor forces. Thus, this study was conducted to compare per-person lifetime cost of stroke according to the age of stroke onset from the Korea societal perspective. **METHODS:** The cost for fatal stroke was measured as one-time cost. The cost for non-fatal stroke was estimated as a lifetime cost using Markov cohort simulation. Then, weighted average cost was calculated based on the proportion of fatal or non-fatal stroke among Korean population. Transition probabilities were derived from published sources. Average cost for fatal stroke and 1<sup>st</sup>- and 2<sup>nd</sup>-year of non-fatal stroke was estimated from the National Health Insurance claims records. **RESULTS:** The lifetime economic impact of stroke is 10.6–4.5 times higher for men aged 45 or 55 (196.6–83.7 million Korean won) than those 65 (8.2 million KW). Women experiencing stroke at 45 or 55 (69.5 or 38.1 million KW) showed 3.2–1.8 times higher lifetime cost than women at 65 (21.1 million KW). While stroke from those aged 45–64 accounted for only 20% of incidence, the total national lifetime costs of stroke was explained by 72% from this age group. **CONCLUSIONS:** Higher lifetime burden and increasing incidence of stroke among younger population in Korea suggests that more effective strategy targeting young population should be adopted to prevent stroke incidence in the nation.

## PCV73

**COST-ANALYSIS OF STROKE PATIENTS WITH THE INTEGRATED WESTERN AND ORIENTAL MEDICAL TREATMENT IN SOUTH KOREA**Ku MJ<sup>1</sup>, Lee EK<sup>2</sup><sup>1</sup>SookMyung Women's University, Seoul, South Korea, <sup>2</sup>Sook Myung Women's University, Seoul, South Korea

**OBJECTIVES:** In Korea, not only has the number of stroke patients increased, but also the integrated western and oriental medical treatment became popular. In this study, treatment costs for stroke were compared for those with integrated treatment with the costs of western treatment. **METHODS:** During the period between May 2006 and February 2009, the treatment cost was analyzed for 318 stroke patients who were admitted to the emergency room of a secondary hospital. Medical records were collected and detailed cost items were compared. SAS Version 9.1 was used for data analysis. **RESULTS:** The estimated annual treatment cost for a stroke patient is KRW 10.55 million for the integrated treatment, whereas it is KRW 8.11 for western treatment only. The biggest parts of integrated treatment cost were for rehabilitation and oriental medical treatments. Because much of oriental treatments is not covered by health insurance, patients' burden were heavier compared to western treatment. Oriental treatment comprises 16.3% for the inpatients, whereas higher at 65.2% for outpatients. In addition, although the incidence of ischemic stroke was higher than that of hemorrhagic stroke, the average days of hospitalization and average total treatment cost per patient were higher in the case of hemorrhagic stroke in Korea. **CONCLUSIONS:** The integrated medical treatment costs more than only the western treatment. However, more detailed study with more integrated treatment patients will be needed to generalize the study results.

## PCV74

**INCREMENTAL COSTS OF HYPERTENSION, HYPERGLYCEMIA, HYPERLIPIDEMIA, AND THEIR COMBINATIONS**Tang CH<sup>1</sup>, You SL<sup>2</sup>, Sun CA<sup>3</sup>, Bai CH<sup>4</sup>, Pwu RF<sup>5</sup>, Hung ST<sup>1</sup><sup>1</sup>Taipei Medical University, Taipei, Taiwan, <sup>2</sup>Academia Sinica, Taipei, Taiwan, <sup>3</sup>Fu Jen Catholic University, Taipei, Taiwan, <sup>4</sup>Shin Kong Wu Ho-Su Memorial Hospital, Taipei, Taiwan, <sup>5</sup>Center for Drug Evaluation, Taipei, Taiwan

**OBJECTIVES:** Hypertension, hyperglycemia and hyperlipidemia (HHH) are important health problems due to their relationship with cardiovascular, cerebrovascular and peripheral vascular diseases. Previous studies have found that individuals with HHH were associated with more health care resource use, yet no study has been conducted in Taiwan to estimate the cost impact of HHH on society. This study aimed to determine the incremental costs among the individuals with HHH, compared with no symptom individuals in Taiwan with no symptoms. **METHODS:** A retrospective case-control analysis was performed using a unique dataset that linked the 2002 Taiwanese Survey on Prevalence of Hypertension, Hyperglycemia and Hyperlipidemia (TwSHHH) with the 2003–2006 National Health Insurance (NHI) claims records. Study cases were 1277 individuals with hypertension, 409 individuals with hyperglycemia, and 1808 individuals in Taiwan with hyperlipidemia. For each symptom group, controls without symptoms were matched at a 1:3 ratio by demographics. The difference in medical costs between cases and controls was assumed to be attributable to HHH. Negative binomial regression based on generalized estimating equations were performed to compute regression-adjusted annual total medical costs. All costs were reported in NT dollars (US\$1.00 = NT\$34.42 in 2003). **RESULTS:** Adjusted mean annual number of outpatient visits for HHH were 5.81, 11.62 and 4.36, respectively. Mean annual number of hospital days for HHH were 1.67, 3.13 and 0.97, respectively. Mean annual drug costs for HHH were NT\$8,612, NT\$ 14,665, and NT\$ 3,578, respectively. Mean annual total medical costs for HHH were NT\$21,117, NT\$

34,853, and NT\$ 9,678, respectively. **CONCLUSIONS:** This study demonstrated a substantial increase in resource usage in terms of the frequency of care use and medical costs associated with HHH. Indirect morbidity costs need to be estimated in the future to provide the information on the overall economic burden of HHH to policy-makers in Taiwan.

## PCV75

**PATIENTS WITH PULMONARY EMBOLISM AFTER ORTHOPAEDIC SURGERY HAVE SIGNIFICANTLY INCREASED COSTS FOR INPATIENT STAY**Lukac M<sup>1</sup>, Bielik J<sup>2</sup>, Foltán V<sup>3</sup>, Tomek D<sup>4</sup>, Zatko D<sup>5</sup><sup>1</sup>Faculty of Public Health at Slovak Medical University, Bratislava, Slovak Republic, <sup>2</sup>Trencin University, Trencin, Slovak Republic, <sup>3</sup>Comenius University, Bratislava, Slovak Republic,<sup>4</sup>Slovak Society for Pharmacoeconomics, Bratislava, Slovak Republic, <sup>5</sup>General Health Insurance, Bratislava, Slovak Republic

**OBJECTIVES:** Orthopaedic surgery is one of the highest risk factors for venous thromboembolism. The main objective of this retrospective database analysis was to determine direct medical costs for pulmonary embolism (PE) in patient undergoing orthopaedic surgery in Slovakia from the payer perspective. **METHODS:** A retrospective database analysis of biggest health insurance company in Slovakia was conducted. Resources used and their respective costs in connection with PE were collected for patients undergoing elective total hip replacement (THR) or elective total knee replacement (TKR) during the period from January 1, 2007 till January 1, 2008. All resources and costs were categorized in four groups: inpatient, outpatient, drugs and examinations. Costs in Euro were calculated with official exchange rate 30,126 Sk/€. Cost comparison between groups of patients with PE and without PE after orthopaedic surgery was done. **RESULTS:** The group of 3069 patients (1121 men and 1948 women) after elective orthopaedic surgery was analyzed. There were 2153 patients with THR and 916 with TKR. The average age was 64.5 and 68.4 years in THR and in TKR group respectively. Eighteen cases of PE were identified in the whole group (11 in THR and 7 in TKR). Average direct medical costs for group of patients were €5964 with PE and €3170 without PE. **There was a following structure of costs (WITH and WITHOUT pulmonary embolism):** 1) inpatient: €5064 and €2516; 2) outpatient: €171 and €141; 3) drugs: €339 and €251; and 4) examinations: €390 and €262. **CONCLUSIONS:** Average direct medical costs for patients with PE after elective orthopaedic surgery are €5964. This is almost 90% more than the average direct medical costs for patients without PE. Main driver of increased costs is inpatient stay at intensive care unit and at internal medicine department after episode of pulmonary embolism.

## PCV76

**DIRECT COSTS OF DIAGNOSTIC AND TREATMENT OF PATIENTS WITH ATRIAL FIBRILLATION IN GERMANY**Benkert D<sup>1</sup>, Wasem J<sup>2</sup>, Aidelburger P<sup>1</sup><sup>1</sup>CAREM GmbH, Sauerlach, Germany, <sup>2</sup>University of Duisburg-Essen, Essen, Germany

**OBJECTIVES:** Atrial Fibrillation (AF) is an important public health problem. The aim of the study is to assess the costs of AF in the German health care system. **METHODS:** From a payer's perspective we determined annual direct medical costs of patients with paroxysmal, persistent and permanent AF based on 2008 prices. Cost calculation is based on a bottom-up approach. Resource items (e.g. laboratory tests) and quantity of resource use were identified by literature research and by consulting medical experts. Prices for outpatient treatment and drugs were obtained from official catalogues considering prices. Inpatient treatment was priced by use of the German Diagnosis Related Groups System. Costs were calculated in a cost database by relating resource use and corresponding price. Appropriate discounts and rebates were taken into consideration. **RESULTS:** The annual average aggregated costs of paroxysmal AF are €1394, of persistent AF are €2130 and of permanent AF are €1073 without the costs for diagnostic investigations. Including these costs there are €1644 for paroxysmal AF and €2441 for persistent AF. Permanent AF is not considered, because patients are not diagnosed as permanent by the first doctor's contact. From payer's perspective, the main cost driver was hospitalization (€756 to 1809), especially due to the procedures of electrical cardioversion. **CONCLUSIONS:** The cost evaluation shows that AF is related with high costs for the social health insurance in Germany. Because the data used are predominantly taken from publications, it might not reflect the real resource use for Germany. In the same way data raised by experts opinion do not reflect a generally applicable resource use. Despite these limitations the present study shows valid data of costs for AF in Germany. Our results are comparable with the results of another German cost-of-illness-analyses and the results of the German Competence Network on AF.

## PCV77

**HEALTH CARE COSTS AND RESOURCE UTILIZATION FOR ACUTE CORONARY SYNDROME IN PATIENTS WITH AND WITHOUT DIABETES MELLITUS**Zhao Z<sup>1</sup>, Zhu B<sup>2</sup>, Anderson J<sup>1</sup>, Bayt T<sup>2</sup>, LeNarz L<sup>2</sup><sup>1</sup>Eli Lilly and Company, Indianapolis, IN, USA, <sup>2</sup>Lilly USA, LLC, Indianapolis, IN, USA

**OBJECTIVES:** Diabetes is an independent prognostic factor for increased risk for ischemic heart disease. This study evaluates differences in health care costs and resource utilization for acute coronary syndrome (ACS) patients with and without diabetes mellitus (DM). **METHODS:** A retrospective cohort study was conducted using a large US administrative claims database. Patients aged 18–65 years hospitalized with a primary diagnosis of ACS between January 1, 2005 and December 31,